



A MULTIMODAL EXAMINATION OF CHINESE ECOLOGY- THEMED PICTURE BOOKS: A READING OF THERE ARE 24 SOLAR TERMS, THE SUMMER, AND THE DRAGONFLY'S DIARY

¹TU WANG BEI
^{2*}KAVITHA GANESAN

^{1,2*}Centre for the Promotion of Knowledge and Language, Learning,
Universiti Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah, Malaysia

¹Anqing Normal University

*Corresponding author: kavitha@ums.edu.my

Dihantar/Received: 30 October 2025 | Penambahbaikan/Revised: 20 April 2026 Diterima/Accepted: 27 April
2026 | Terbit/Published: 1 September 2026
DOI: <https://doi.org/10.51200/manu.v37i1.6908>

Abstract To examine the interplay between language and nature, Arran Stibbe describes the discourse as “beneficial, ambivalent or destructive” to the ecology. As a distinctive multimodal genre in children’s literature, picture books are an ideal carrier of knowledge for children’s education on the environment. With an increasing emphasis on the protection of the surrounding ecology, the role of Chinese picture books on children’s education is becoming more prominent. This study uses a multimodal analysis of three representative texts from the perspective of Ecological Discourse Analysis (EDA), which is an important branch of ecolinguistics that focuses specifically on ecological properties in discourses. By combining both quantitative and qualitative research methodologies, the study reveals the following: (i) the ecological orientation in picture books is constructed through text and image, either separately or jointly; and the image modality is more beneficial than text modality to transit ecological knowledge and foster an awareness; (ii) the combination of traditional ecological and cultural knowledge, such as demonstrated in the selected texts, Chinese picture books are able to forward specific characteristics in ecology protection.

Keywords: EDA, China, Ecology Discourse Analysis, Children’s picture books, Multimodal

Abstrak Bagi mengkaji interaksi antara bahasa dan alam semula jadi, Arran Stibbe menggambarkan wacana sebagai “bermanfaat, ambivalen atau merosakkan” kepada ekologi. Sebagai satu genre multimodal yang tersendiri dalam kesusasteraan kanak-kanak, buku bergambar merupakan pembawa pengetahuan yang ideal bagi pendidikan alam sekitar untuk kanak-kanak. Dengan peningkatan penekanan terhadap perlindungan ekologi sekeliling, peranan buku bergambar China dalam pendidikan kanak-kanak menjadi semakin menonjol. Kajian ini menggunakan analisis multimodal terhadap tiga teks representatif dari perspektif Analisis Wacana Ekologi (EDA), iaitu satu cabang penting ekolinguistik yang berfokus secara khusus pada sifat-sifat ekologi dalam wacana. Dengan menggabungkan kedua-dua metodologi penyelidikan kuantitatif dan kualitatif, kajian ini mendedahkan perkara berikut: (i) orientasi ekologi dalam buku bergambar dibina melalui teks dan imej, sama ada secara berasingan atau bersama; dan modaliti imej adalah lebih bermanfaat berbanding modaliti teks untuk menyampaikan pengetahuan ekologi serta memupuk kesedaran; (ii) dengan gabungan



pengetahuan ekologi dan budaya tradisional, seperti yang ditunjukkan dalam teks-teks terpilih, buku bergambar China mampu mengetengahkan ciri-ciri khusus dalam perlindungan ekologi.

Kata kunci: EDA, China, Analisis Wacana Ekologi, Buku bergambar kanak-kanak, Multimodal

INTRODUCTION

China's economy has developed rapidly following the policy to reform that opened its national doors in 1978. Inevitably then, the tension between economic development and environmental protection has become increasingly common, underscoring a pressing need for ecological protection prompting the Chinese government to take measures to bolster environmental protection. The journey of China's environmental policies began in the 1970s when the country, spurred by the United Nations' first Conference on the Human Environment in 1972, took its initial steps in environmental protection (Yu & Zhao, 2025). The subsequent years saw a series of landmark events that gradually elevated environmental concerns to the forefront of national priorities. In 1989 Environmental Protection Law of People's Republic of China (PRC) formally came into force, incorporating the construction of ecological civilization into the legal framework. Since 2012 the country has witnessed the integration of ecological civilization into China's overall development strategy (Yu & Zhao, 2025). In 2015, the New Environmental Protection Law of PRC was implemented, and the construction of ecological civilization was promoted in the whole country. "Lucid waters and lush mountains are invaluable assets," which was an important slogan, was proposed by General Secretary Xi Jinping, and eventually became the principle to promote the construction of ecological civilization throughout the nation (Xinhua News, 2019).

These policies enhanced public enthusiasm for environmental protection and created a favorable atmosphere for the whole society to participate in environmental protection, and the national environmental education base reached sixty-three (63) (Xinhua News, 2015). In 2017, ecological civilization became a part of the Communist Party of China's (CPC) constitution, and ecological civilization education was included in the education guide for primary and secondary schools such as the garbage classification course covering 100% of schools in Shanghai (Ministry of Ecology and Environment of PRC, 2019). Concurrently, there has been a growing public concern for the ecological environment, leading to a diversification of demand for ecology-themed reading materials including picture books.

Picture books, as a powerful medium for children's education and entertainment, have increasingly incorporated environmental themes in response to the changing policy landscape. These books not only serve as educational tools but also play a crucial role in shaping children's attitudes and values towards the environment. Research on Chinese publications nevertheless is still limited. This article examines three selected Chinese original picture books. Original picture books here refer to those created by Chinese author and illustrator and that are published in Mandarin by Chinese publishers, from the framework of multimodality, with a focus on ecological discourse analysis.



LITERATURE REVIEW

Over-exploitation of natural resources has led to the rapid development of economy, invariably, these have also resulted in the continuous deterioration of the surrounding environment contributing to ecological problems. The greenhouse effect, serious desertification and other problems, have not only endangered many species all over the world, but affected human well-being as well. The increasingly polluted environment and its resultant challenges to human have raised a concern among policymakers, researchers, and world citizens to the extent that the fields of humanities and social sciences have undergone an “ecological turn” in the middle and late twentieth century (Stibbe, 2005). Language as a cultural vehicle has been incorporated in ecological research as well. Halliday's speech in 1990 focused on how language reflects human cognition of nature and promoted the formation of environmental protection consciousness through linguistic means. This event led to the emergence of ecological linguistics, or ecolinguistics, and the ecological discourse analysis which we discuss hereafter. Ecolinguistics is the scientific study of the impact that language has on the life-sustaining relationships among humans, other organisms, and the physical world (Alexander & Stibbe, 2014). It is an interdisciplinary area of study at the intersection of the disciplines of ecology and linguistics with a primary focus on the examination of language's function in the context of human-nature interactions and the preservation of biodiversity from an ecological perspective. There are two research paradigms in ecolinguistics: Haugen paradigm and Halliday paradigm. The former paradigm focuses on the ecology of language (Haugen, 1972). Here, language is taken as a species, which also faces the risk of distinction. The objective of Halliday's paradigm (1990) is the revelation of the interactive relationship between language and physical ecology which is termed as the language of ecology.

Halliday's speech (1990) initiated a shift in the field of linguistics, focusing on the dynamic interplay between language systems and ecological factors. Scholars forwarded related hypothesis and in turn, developed the theory from multiple perspectives. Fill (1998), for instance, highlighted the interdisciplinary nature of ecolinguistics and addressed the necessity to promote ecological awareness and sustainability from a linguistic approach. Steffensen and Fill (2014) proposed an extended ecology hypothesis to understand ecolinguistics as a naturalized science of language. Other scholars such as Abram (1996), Nash (2016) as well as Zhang and He (2020) proved the theory in disparate natural and geographical context.

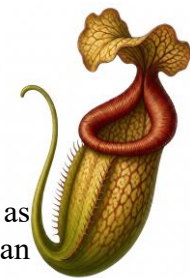
Stibbe (2014a) has made a notable contribution to the development of ecolinguistics. Stibbe (2001; 2003) has concentrated on the interaction between language, power, and the social shaping of animals and further explored the underpinning ideology of the discourse to exploit the animals in the pork industry. Stibbe (2014b) also emphasizes that the use and spread of language has an impact on ecosystems. This is because language does not exist in isolation, but is embedded in human societies, which, in turn are entrenched in larger natural systems. Linguistic research therefore needs to focus on the relationship between language and ecosystems. By drawing examples from specific issues, Stibbe (2014a) explored more theoretical foundation for ecolinguistics from the perspective of critical discourse analysis. Alexander and Stibbe (2014) distinguished the two principal trends: the analysis of ecological discourse and the ecological analysis of discourse and concluded that, “ecolinguistics is, primarily, the ecological analysis of discourse” (p.41). He summarized the research findings in his book published in 2015 by exploring the role of language in human interaction with the natural environment and described it as “both destructive and life-sustaining” (Lamb, 2017). According the ecosophy of “Living!” Stibbe (2015) proposed that the discourse could be



categorized as “beneficial, ambivalent or destructive” (p.22-26). The key concepts of “ecological narratives” and “beneficial discourses” are used to promote sustainable values.

Researchers have applied ecolinguistics to various genres, including children's literature, to examine how environmental themes are presented and how they affect young readers' ecological consciousness (Goatly, 2017). It has been demonstrated by scholars worldwide that language has an impact on the environment, human rights, and tourism, amongst other areas (Isti'anah, 2019; Zahoor & Janjua, 2020). When turning to children, some research also revealed that environment, family, children's literature and ecological education activities influence children's language and reading skills (Chow et al., 2017; Van Bergen et al., 2017). Scholars from South Korea (Chu et al., 2007), Turkey (Yavuz et al., 2019), Israel (Negve et al., 2008), China (Cheng & So, 2014) and other countries have conducted relevant studies on the environmental education of the children and adolescents, which include life education (Basile & White, 2000), teaching activities (Lee, 2012) and children's literature (Hann & Hagelman, 2021).

As a special genre of children's literature, picture books are called as the first book of life, because these books are utilized in a variety of educational activities, including reading, cognition, emotional education and other educational activities. Naturally then, picture books have developed into different categories to put the mentioned functions into practice. Ecology-themed picture books advocate harmonious coexistence between humans and nature, focusing on other species and their living environments. These books delve into the intricate relationship between human beings and the natural world. These works are designed to educate children about the environment and to promote sustainable practices (Arizpe et al., 2023), which are positive in fostering children's environmental awareness, to improve their environmental literacy as well as perfect their ecological personality (Babb et al., 2017; Martin et al., 2019). Going one step further, researchers in Malaysia have founded that children's literature, specifically novels, with an emphasis on surrounding ecology, can even promote the inculcation of values associated with human capital deemed necessary for the job market (Junaidi, 2020). Among older children, especially teenagers, Abdul Hair Beddu Asis et al. (2021), opine that, environmental awareness and environmental practices may not necessarily complement one another as generally expected; instead, as the survey conducted during their research among 500 respondents in Sabah, Malaysia revealed that, while ecological awareness may be significantly high, its related action may not necessarily follow suit. This proves that youngsters—even those below age 18—do not demonstrate an ecologically sound best practices calling for more researches such as those included in the findings of this article to be conducted in the future. In the context of Sustainable Development Goals, Abdul Hair Beddu Asis et al. (2024) concluded that even in indigenous epistemology, an ecologically driven approach will provide a long sustainable food sourcing method for native communities further strengthening the argument that environment is at the crux of human survival, and the earlier the exposure happens the better it is for a sustainable living. While these examples highlight examples drawn from Soutuheast Asia, in the context of East Asia such as in South Korea, scholars have revealed the function of picture books (Cho & Lim, 2016), the research about Chinese picture books is relatively limited. Since year 2000, China has imported and published a large number of excellent children's picture books, and Chinese original picture books have developed rapidly. It is worthwhile to include Chinese picture books especially for the examination of multi-modes that looks at both image and text simultaneously.



Halliday (1978) believed that text, audio, and visual symbols should be regarded as different modal forms of language. Multimodality was first proposed by Kress and van Leeuwen in 2006 and refers to all channels and media involved in the communication process. The multimodality of language also brings an “evolutionary” development to ecolinguistics, which also includes discourse related to images and the role of ecological discourse on the Internet (Fill, 2018). He expanded the research to printed materials such as picture books and comics, audiovisual products such as films and advertisements, and even three-dimensional works such as spatial design and sculpture. As a typical multimodal genre, the examination of picture books should be done under the framework of multimodality.

The study of ecolinguistics employs a range of analytical tools, like Critical Discourse Analysis (CDA) and Systemic Functional Grammar (SFG) to gain insight into the underlying beliefs and values that shape people’s communication. Rooted in ecolinguistics and CDA, Ecological Discourse Analysis (EDA) investigates the narratives, metaphors, and ideologies embedded in environmental discourses, aiming to uncover power dynamics and promote sustainable practices. EDA has shown diversified applications in different texts in recent years, and the research themes are mainly centered on the relationship between language and ecological awareness, which are manifested in the following aspects: i) children’s literature and textbook analysis (Fashal & Al Shamari, 2022; Triyono et al., 2023; Ginting et al., 2024), which explores how texts convey environmental education concepts through animal representations, ecological identity construction, and multimodal design; (ii) ecocriticism of classic narratives and folktales (Hunt, 2023; Khasandi-Telewa, 2023; Cao, 2021), that reveals the interaction between gender, cultural traditions, and the view of nature; (iii) discursive practices in the media and documentaries (Jabeen, 2024; Ginting et al., 2024; Nikkanen, 2024), analyzing the effects of public discourse on the construction and dissemination of environmental issues; and (iv) multimodal studies of policy and educational texts (Zollo, 2024), focusing on the discursive strategies of environmental education in the European Union. Methodologically, EDA coexists with Positive Discourse Analysis (PDA), emphasizing the implicit shaping of ecological values through language while focusing on the synergistic effects of multimodal symbols (images, typography, etc.). It is widely noted that contemporary texts worldwide contain both ecological risks of anthropocentric tendencies and positive discourses that promote ecological empathy.

According to data from China National Knowledge Infrastructure (CNKI), since 2022, the research enthusiasm of Chinese scholars in the field of ecolinguistics has been on the rise. Initially, the focus was primarily on discourse analysis and teaching practices within the discipline of foreign languages (He and Shen, 2023; Han, 2022). Many scholars (Cao, 2021; Xiaolan, 2020; Mou & Wu, 2023; Ma, 2024) have also utilized EDA to analyze textbooks and literary materials. Currently, the scope has gradually expanded to include the analysis of news discourse in journalism and communication (Zhang et al., 2023) as well as the multimodal analysis of documentaries (Li & Sun, 2023). In the field of children’s literature, EDA has been applied to diverse text types, particularly well-known works of literature like *Little Prince* and *Little Red Riding Hood*. However, Chinese original picture books have not been included in the scope of past research. This article aims to contribute to this field by employing EDA to the analysis and interpretation of Chinese original picture books, which as mentioned earlier, are written in Mandarin and published in China. Considering the multi-modes of picture books, there is a need to develop a multimodal ecolinguistics framework to examine how ecological themes are constructed in picture books through the interaction of verbal and visual semiotic resources.



MATERIALS & METHOD

Framework

This study is situated within the framework of ecolinguistics and is aimed at addressing the following two questions;

1. What is the ecosophy of these picture books?
2. How was it conveyed in the multimodal discourse?

At the linguistic level, the study follows the findings drawn from previous research (Fashal & Al Shamari, 2022; Xiao, 2022), where drawing the transitivity system within systemic functional linguistics developed by Halliday. The analysis of the image mode is a relatively novel approach as discussed shortly in this article.

Based on Kress and van Leeuwen's (2006) theory of Visual Grammar and Language-Image Relations, the analysis would focus on the multiple semiotic resources in a text, including language, images, colour, and layout, and the interactions between them. In this study, this framework will be applied to synthesize different modal elements such as text and illustration in three picture books; *There are 24 Solar Terms*, *The Summer*, and *The Dragonfly's Diary*, while combining with ecosophy proposed by Arran Stibbe, to analyze how image and text modalities work together to construct ecological meaning.

According to the role of semantic discourse in the shaping of individual ecological view, Stibbe (2015) proposed that the discourse can be categorized as beneficial, destructive, and ambivalent, which means that discourse also plays an important role in the construction or destruction of the environment by influencing human's behavior. Environment was projected differently on language due to the diversity of an individual's ecosophy.

Ecosophy refers to the set of attitudes, values, and hypotheses related to the environment (Naess, 1995), which is not uniformed but marked by individual differences. "Living!" is the ecosophy proposed by Stibbe (2015), which include wellbeing at the present moment, as well as care, environmental limits, social justice and resilience in the future. Wellbeing and care call for ethical expansion, environmental limits and social justice reveal structural contradictions; wellbeing for the present moment and future as well as resilience calls for action. Ecosophy is the criteria for EDA which determine the ecological nature of the discourse as "beneficial, ambivalent and destructive".

Stibbe (2015) emphasizes "the stories" reflected the ideology which is in fact the ecosophy of the analyst. The ideologies reflected in stories, i.e., the values, beliefs and perceptions embedded in them, influence how people understand the world and how they behave. Different stories convey different ideologies, which in turn affect ecosystems through the actions of people. Ecosophy is the main criteria to determine ecological orientation. From the perspective of eco-linguistics, the ecosophy of Chinese original picture books reflects a deep interaction between language, culture, education and social ecosystems. At its core lies the construction of the ecological value of harmonious coexistence between human beings and nature through the medium of picture books.

The proposed framework integrates systemic functional linguistics, visual grammar, and ecosophy evaluation into a coherent analytical model, which moves from multimodal meaning construction to ideological configuration and ecological assessment. In short, this framework



provides a systematic approach to examine how ecological themes are constructed in picture books (refer to Figure 1).

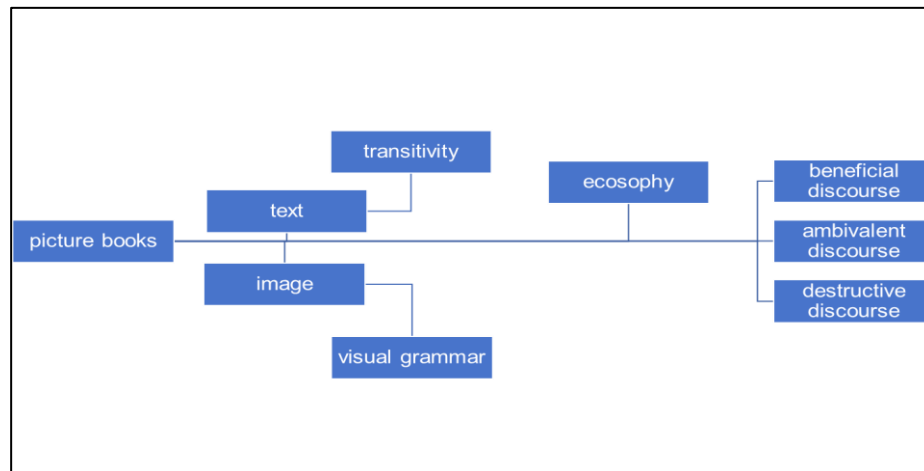


Figure 1
The Framework of the Study

Respondent

The year of 2015 is an important year for Chinese picture books especially those written, published, and disseminated locally. China's original picture books showed an outburst of release, and some publishers even exclaimed the era of Chinese original picture book is arriving and regarded that particular year as the original picture book launching period, i.e. “the first year of full launch” (Li, 2025). Unsurprisingly then, in 2015, ecology-themed picture book publishing exploded (such as those three books chosen for analysis in this article) and Beijing Normal University established the Creation and Research Center of Chinese Picture Book, launching the “Original Picture Book Ranking 2015” competition (Chinese org.cn, 2016). In light of these developments, three Chinese ecological themed picture books published in 2015 has been selected as the primary focus of the analysis.

Secondly, in this article, the ecological content and genre are the main criteria for sample selection. Since thousands of picture books are published on a yearly basis, it is difficult to calculate the readership, or to say it differently, quantify the consumption. Ecology-related themes are an important criterion to narrow the scope. In the public library where the researcher resides, there are 5,343 picture books, out of which, 359 picture books are related to nature, ecology and animals, etc. To focus on the content discourse, the samples based on the content, genre, and social reputation has selected. A total of 359,278 books is non-fiction based on science education. In ecolinguistics, ecosophy is embedded in “the stories” (Stibbe, 2015), so the books with stories could be used as samples for EDA. Three samples are chosen from the remaining 81 books, according to the sales record, awarding-winning status, and social reputation (refer to Table 1).



Table 1
Three Samples of Book has Selected

Title	Author	Illustrator	Publication Year	Theme	Genre	Reception
There are 24 Solar Terms	Gao Chunxiang, Shao Min	Xu Mingzheng, Li Jing	2015	Human activities in accordance with the laws of nature.	Narrative writing	11th Wenjin Book Award, etc.
The Summer	Cao Wenxuan	Yu Rong	2015	Learning to love of the animals	Folktale	Ranking Top of 2015 China Original Picture Book Competition, etc.
The Dragonfly's Dairy	Liu Bingjun	Wei Yongheng	2015	Micro-ecological chain	Diary	The Chinese Government Publishing Award, etc.,

The three picture books have their own characteristics in the presentation of ecological themes. *There are 24 Solar Terms* uses narrative writing to introduce the Chinese customs of solar terms, seasonal food, and ways to maintain health; these features, in turn, reflect the harmonious relationship between human beings and nature. Solar term is a set of knowledge system formed by Chinese ancient ancestors by observing the changes of seasons, climate, weather and the celestial movements during the year (Qian et al., 2012). This series includes four books: *There are 24 Solar Terms*, *Spring*, *Summer*, *Autumn* and *Winter*, each of which introduces the six solar terms of a season. *There are 24 Solar Terms* have won the 11th Wenjin Book Award, which is a prestigious book award among Chinese libraries nationwide. It also won the 4th China Popular Science Writers Association Outstanding Popular Science Work Award. In addition, this series has been on dangdang.com bestseller for four consecutive years, with a cumulative sales volume of nearly 5 million copies.

The Summer is a folktale that relates the story of a group of animals desperately searching for shade in the great wilderness on a hot summer day. The animals quarrel and fight over a tree. In the end, the elephant wins. After seeing a father and son crossing the wilderness, the father shades his child from the scorching sun with his own body, and the animals learn to take care of each other. The theme of loving and being loved is highlighted against the backdrop of an imbalanced ecosystem. *The Summer* has won the Ranking Top of the 2015 China Original Picture Book Competition, and has received widespread attention for its combination of artistry and nature-based themes. It has been published in 8 editions in 6 languages, including Simplified Chinese, French, Swedish, Korean, Arabic, Traditional Chinese, and English (Australian and American editions), and was selected as one of the “White Crow Books” by the International Youth Library of Germany in 2016. The Swedish version was selected as a candidate for the 2018 Peter Pan Award organized by the International Board on Books for Young People (IBBY) in Sweden.



The Dragonfly's Diary belongs to My Diary Series, which is a set of children's picture books in the form of diary, co-created by famous Chinese children's literature writers and painters. There are 25 books in the whole series, which include dragonfly, ant, ladybug, cricket, snail, and other small insects, introducing their living habits, growth processes and relationship with the natural environment, using anthropomorphism to tell interesting stories about their daily lives. Through vivid and interesting stories, it guides children to understand nature, care for animals and raise their awareness of environmental protection, while helping them learn to observe life and express their emotions. The series has won the Chinese Government Publishing Award, the Chen Bo-Chui International Children's Literature Award, the National Outstanding Children's Literature Award and has sold more than one million copies in the market.

There are 24 Solar Terms and My Diary are two series of books. One representative text from each series would suffice for the purpose of analysis in this article. Based on borrowing records of local children's libraries, found out that There are 24 Solar Terms and The Dragonfly's Diary were ranked top two on the list. These two books were therefore selected as the study sample from its series with a long list of other titles. These two books along with The Summer are the research samples for the discourse analysis presented in this article.

RESULTS AND DISCUSSION

According to Halliday (1978), discourse is a unit of meaning, which conveys three metafunctions: ideational, interpersonal, and textual. The ideational metafunction could be defined as "language's expression of people's experiences in the real world as well as in the inner world" (Brown, 2014). It is expressed through transitive process types and logical semantic relations. Transitive processes are categorized as the following types of processes: material, mental, relational, behavioral, communication, and existential. Each is configured with different subtypes based on different semantic components. The six processes of transitivity are used to understand events, relationships, and processes that show the real world. The transitivity system of languages, exemplified by Chinese picture books, has been the subject of investigation from an ecolinguistical standpoint, with a particular emphasis on the impact of place on human-nature relationships (Zhang and He, 2020).

Halliday's three metafunctions have been interpreted as representational meaning, interactive meaning and compositional meaning in visual grammar. This paper focuses on examining the impact of ecological picture books on readers' ecological awareness. Therefore, interactive meaning would be the focus of analysis in this article. Interactive meaning is how the people who produce and give meaning in the context of social communication differ in their ways. Here, it is regulated by what may be said with images, how it should be said, and how it should be interpreted. Contact is the relation between represented participant and viewer in direct and indirect gaze. Social distance represents social relations between the producer, the viewer, and the represented participant. The choice of distance can suggest different relations between represented participants and viewers, the construction of image itself can make the viewer feel close or far away from the represented participant. The social distance can be realized by size of frame. Size of frame can be divided into close, medium, and long shots. Attitude discusses the term of relations between represented participants and the viewer, and the system of perspective realizes attitude, which is often socially determined. It is usually realized by the selection of the angle (perspective), color (saturation, differentiation, modulation, and so on).



The Multimodal Analysis of The Dragonfly's Dairy

The series of My Diary uses the first-person narrative. In verbal communication, the pronouns 'I, me', and especially 'we, us' in the first-person plural form, have a powerful function to show empathy. "Empathy" refers to the process of communicating one's feelings, emotions, and sentiments to another person with the intention of making the other person understand one's state of mind and intentions. The use of first-person narrative in this series of picture books can narrow the psychological or emotional distance between the protagonist of the story and the reader, thus conveying meaning effectively. In The Dragonfly's Diary for example, clauses A-C describe the daily activities of a little dragonfly, from the first-person point of view, projecting human-family relationships and activities onto the insect world, so that the insect world is endowed with human-like spiritual qualities, which is in line with the reading of psychology and expectation among child readers. The clauses are analyzed in terms of the transitive process, its participants, and environmental factors (refer to Table 2).

Table 2
The Analysis of the Excerpt of The Dragonfly's Diary

	Clause	Process of transitivity	Ecolinguistical orientation
A	5月28日，傍晚， 我和妹妹在池塘里边做游戏。 (In the evening of May 28th, I played games with my sister in the pond.)	material process	beneficial
B	跑来几个举着捕虫网的小孩儿。 (A couple of kids run around, holding up bug nets.)	material process	destructive
C	爸爸赶忙带着我们躲起来。 (Dad rushed us into hiding.)	material process	beneficial
D	我讨厌捕虫网。 (I hated bug nets,)	mental process	beneficial
E	也不喜欢拿着捕虫网的人！ (and the persons holding bug nets.)	mental process	beneficial

In the sentence, there are 5 clauses, which include material and mental processes. Clause A and B describe the circumstance and setting of the scene, and the actors are "I, my sister, papa, and children". The action of playing in the pond is framed positively, implying that such natural interactions are beneficial and desirable. "The insect nets" symbolize harm or intrusion into the natural environment, framing human intervention (capturing insects) as destructive. Clause D and E are mental processes, "I" am the sensor, and express "dislike" for actions that disrupt the natural environment. The discourse can be seen as promoting an attitude against disrupting the natural environment, suggesting a conservationist stance and respect for living beings. It could be regarded as a beneficial clause.

With the above method, the clauses of the whole book are classified as follows: 19 material processes, 24 mental processes, 4 relational processes, 18 behavioral processes, 17 communication processes and 20 existential processes. Then it is categorized based on its contribution to ecosophy (refer to Figure 2).

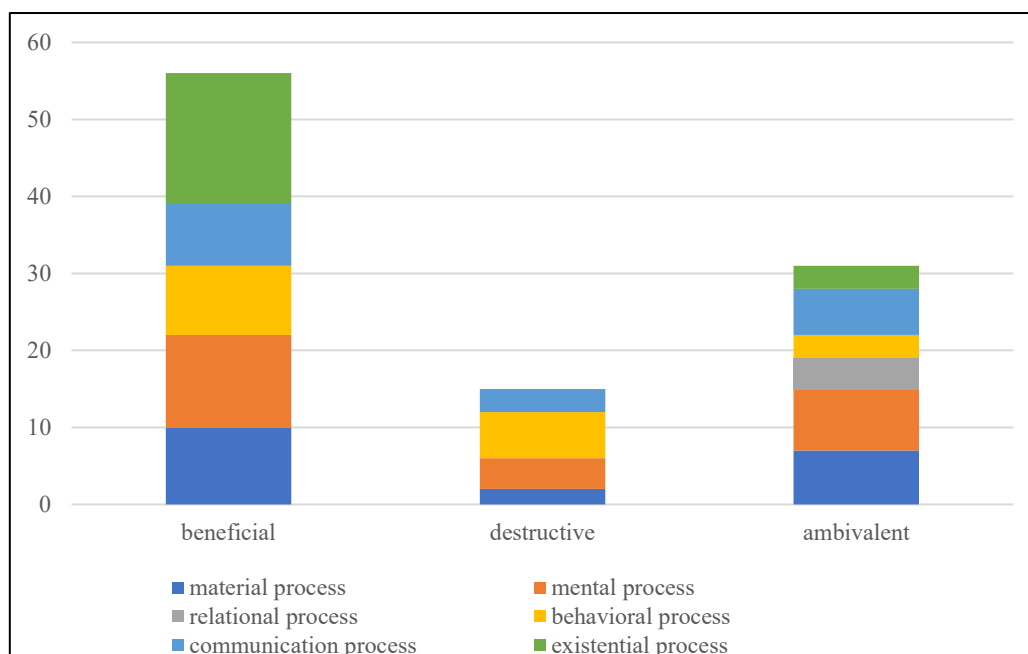


Figure 2
The Distribution of Ecological Discourse of Text mode in The Dragonfly's Diary

Generally speaking, the eco-friendliness of this book is significant, with a high percentage of beneficial discourse in the 5 transitivity processes. The text mode conveys positive ecological values. The main focus is on material, psychological, and existential processes. There are less destructive content and a wider distribution of ambiguous discourse, as well as psychological, material, and verbal processes. Due to the rhetorical technique of anthropomorphism, human emotions and cognition are analogized to the insect world, which, to a certain extent, solidifies the anthropocentric way of thinking, making the discourse ambiguous or destructive.

For instance:

Text: 5月13日 我喜欢人家夸我是一只漂亮的蜻蜓。可爸爸说，漂亮是妹妹的事情，男孩子要勇敢。(Liu & Wei, 2015)

Translation: May 13, I like it when people praise me for being a pretty dragonfly, but my dad says pretty is a girl's thing. I'm a boy and boys must be brave.

Here, "my dad", as the leader or authority in the family, transmits obvious stereotypes about gender roles. It is through his conviction that there exists fundamental differences between male and female personalities, behaviors and interests, and that being "pretty" is a female trait, and that men should not pursue physical beauty; men should instead focus on bravery. However, "I like it when people praise me for being a pretty dragon", shows that children at a young age have a general desire to be beautiful in appearance without gender boundaries. He is nevertheless corrected by his "dad". It reveals that gender stereotypes are not innate but are inculcated and reinforced through socialization process. In the picture book, the stereotype of the gender role is transmitted and solidified by the silence of the female and the dominance of the male.



As a result, the proportion of destructive and ambiguous discourse in the communication, mental and behavioral processes is relatively high, and the sum of the two exceeds that of the beneficial discourse.

Karl Buhler, a famous children linguist, argued that children before the age of 6 are much better at decoding images than at expressing themselves (Vonk, 2002). Experiments have shown that, from early on, children prefer to understand the world through visual input (e.g., object outlines, colors, textures) rather than verbal symbols (Orhan & Lake, 2024). As a result, children pay more attention to pictures when reading picture books that combine illustrations and text. The author and the illustrator are well collaborated in the narration of picture books. In picture books, the image provides more information than the text. The image mode will be examined from the perspective of visual grammar to ascertain its ecological specificities.

The image mode was analyzed from contact (20%), social distance (20%), and attitude (20%) in *The Dragonfly's Diary*. The result, which is the narrative construction of ecological discourse in image mode only, and, its construction in the combined text and image modes, is tabulated in Figure 3 and Figure 4 respectively.

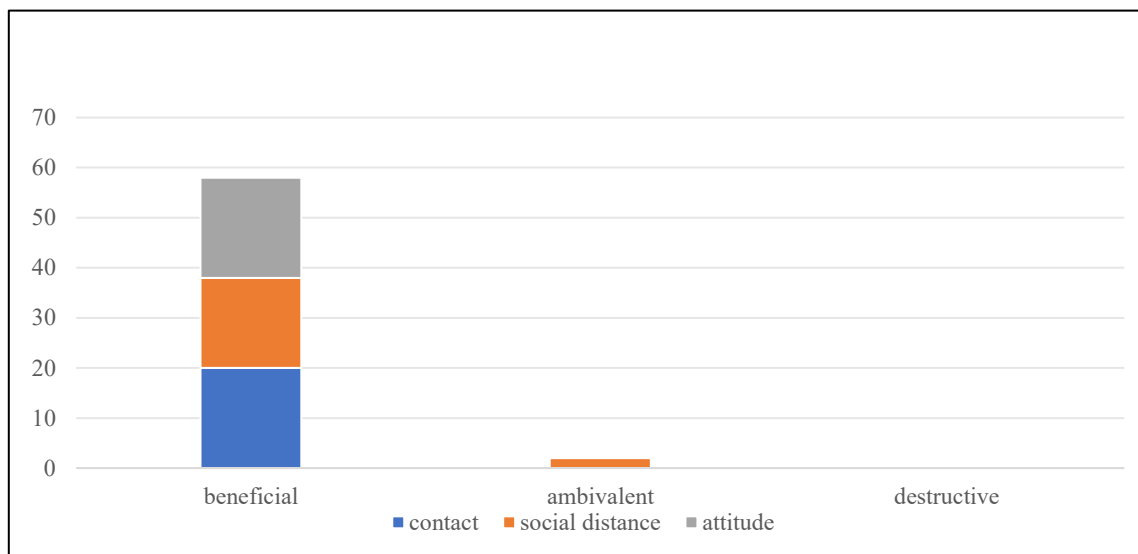


Figure 3
The Distribution of Ecological Discourse of Image Mode in *The Dragonfly's Diary*

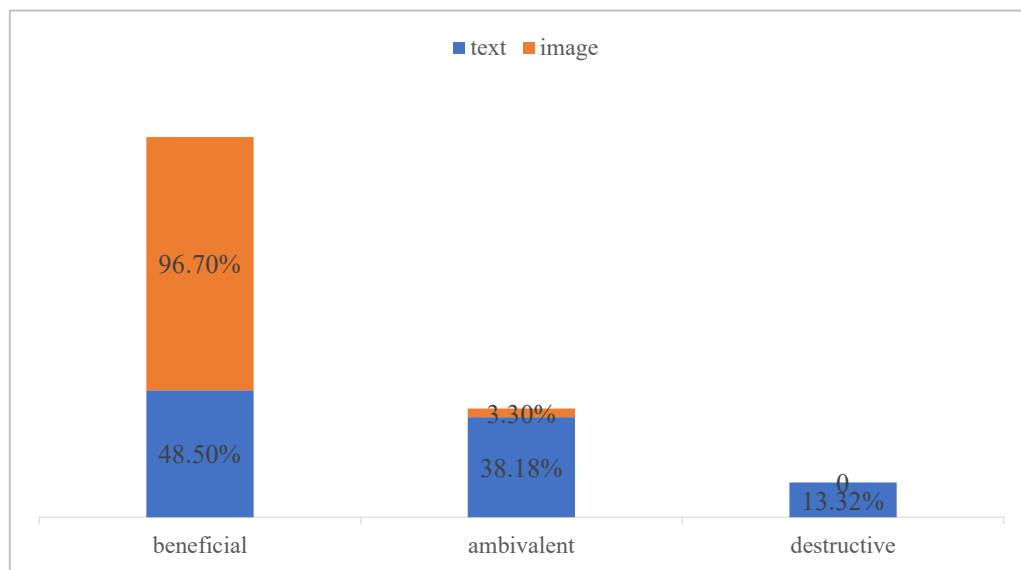


Figure 4

The Distribution of Ecological Discourse of Text and Image Modes in The Dragonfly's Diary

It can be seen from the above analysis that the image modality contains more information than the text modality. Any picture cannot be separated from the specific natural environment, so in terms of ecological orientation, the ecological orientation of image modality is clearer, and the proportion of beneficial discourse is higher than that of text modality. Pictures are more intuitive than words in the construction of children's environmental literary competence.

For example, in The Dragonfly's Diary:

Text: 我要做一只勇敢的蜻蜓！ (Liu and Wei, 2015, p. 6)

Translation: I want to be a brave dragonfly!



Image 1
An Excerpt from The Dragonfly's Diary

The semantic meaning is clear, but it is abstract for children. From the perspective of ecology, on the other hand, the text is unclear and should belong to the ambivalent discourse. Nonetheless, children's curiosity will be raised by the word "brave", and they might ask these questions, "Why should we be brave? How to be brave?"

The situation is totally different in the image modality. The information conveyed in the image mode includes static natural environment such as flowers, reeds, sky, clouds and land, as well as other species such as frogs, dragonflies, grasshoppers and worms. Through the vector relationship formed by the sight of the frog and the dragonfly, the interaction between frogs and dragonflies is observable. The vector reveals that frogs are the natural enemies of dragonflies, and at this moment, the dragonfly escapes from the frog. The dragonfly sticks out its tongue, makes faces at the frog, who opens its mouth wide and waves its two claws. Instead of abstract information, the image provides vivid and abundant natural scenes, which is conducive to children's understanding. It is the echo and supplement of image modality to text modality. In contrast to the abstract text, the life scene constructed by pictures enables children to independently substitute the scene. The information obtained by children from the static background picture and dynamic vector relationship decoding does not only include the information conveyed through text mode, but also include the beautiful natural environment where dragonflies live along with other insects with the same habits as dragonflies; this habitat, interestingly, includes the natural enemies of dragonflies. Therefore, visual modes can be interpreted as beneficial discourse.



The Multimodal Analysis of The Summer

This book does not tell the story from an anthropocentric point of view but rather from the view of the animals who fight over a tree in the wilderness. The tree in the wilderness is a refuge for the animals under the scorching sun, and the animals fight fiercely over it. The animals' fight for the tree highlights the scarcity of natural resources and indirectly warns of the need for an ecological protection. The whole story is centered on the animals' fight for the last tree in the wilderness. The reappearance of human beings in this story (a father and son) shows the affection between human beings, with the father shading his son from the scorching sun with his body, and does not explain how human beings can save the ecological balance that has been destroyed in the wilderness. The animals are left to save themselves; the bobcat shades the field mouse, the wild dog shades the bobcat, and the leopard shades the wild dog. Finally, a cloud drifts in from the sky and shields all of the animals from the scorching sun.

Table 3
The Analysis of the Excerpt of The Summer

	Clause	Process of Transitivity	Ecolinguistical Orientation
F	当然，最后这棵树是属于大象的。 (Of course, in the end the tree belonged to the elephant.)	relational process	destructive
G	动物们一起转而冲向大象。 (Together the animals turned to the elephant.)	material process	destructive
H	吼叫着：“是我们先跑到树下的！” (and roared, , “We ran under the tree first!”)	communication process	destructive
I	大象生气了， (The elephant was angry.)	mental process	ambivalent
J	向它们叫着：“走开！走开！” (and screamed at them “Go away! Go away!”)	communication process	destructive

Clause F is the destructive discourse because it directly declares the belonging of the resources, and clauses G-J reflect the competition and conflict among the animals for the resources. This conflicting discourse may exacerbate the conflict between animals thus disrupt the balance of the ecosystem. In the story, the animals fight over a tree, which reflects the failure of the animals to embody the concept of ecological harmony in the face of scarce resources, and instead shows an attitude of selfishness, which to a certain extent disrupts the balance of the ecosystem.

There are 64 clauses in the book, including 38 material processes, 6 behavioral processes, 11 communication processes and 9 existential processes. It is then categorized based on its contribution to ecosophy (refer to Figure 5).

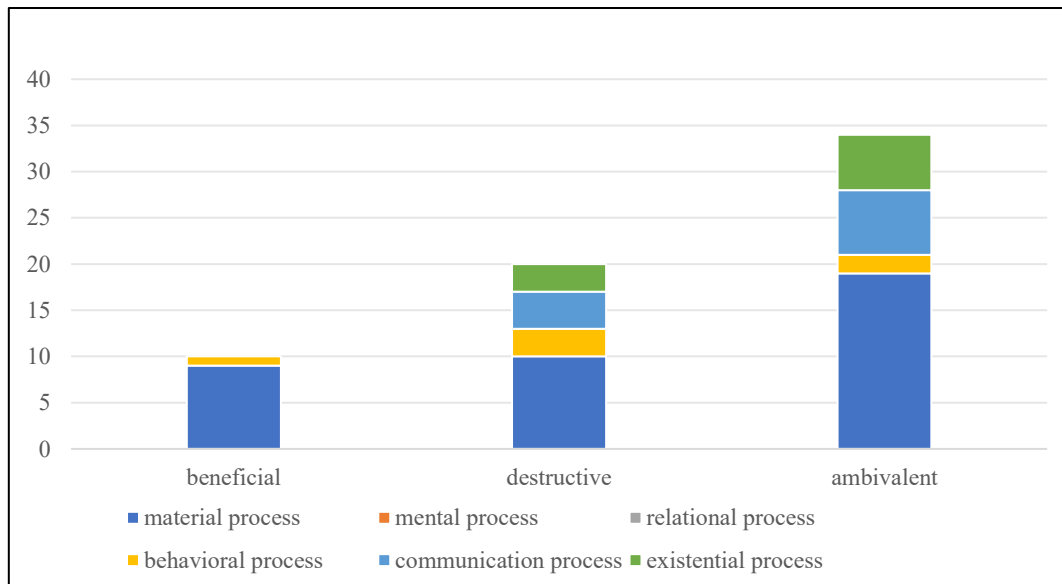


Figure 5
The Distribution of Ecological Discourse of Text Mode in The Summer

There is more destructive discourse than beneficial discourse in this book which indicates that the ecosystem in the story is facing serious problems. The disharmonious behaviors among the creatures exacerbate the deterioration of the surrounding environment which also highlights the urgency for an ecological protection. The behavior of the animals in the story warns people that if they do not take measures to protect the ecological environment, the conflict between the creatures will continue to escalate, and the ecosystem will face a greater crisis. The beneficial discourse is mainly reflected in the final part where the animals learn to love and take care of each other. However, the proportion of such beneficial discourse in the whole story is small. The highest proportion of ambivalent discourse is due to the depiction of life scenes in human society, which did not show a clear ecological orientation.



Image 2
An Excerpt from The Summer



Image 3
An Excerpt from The Summer

With the comparison of the two images (Images 2 and 3), we can get the following result (refer to Table 4):

Table 4
The Analysis of an Interactive Meaning for Image 2 and 3

	Contact	Social Distance	Attitude
Image 2	Offer	Far Away	Peaceful
Image 3	Demand	Close	Anxious

Image 2 shows human life during summer, there are fruits everywhere with green trees, chickens and ducks. It is a vibrant, quiet and harmonious scene of living. Image 3, conversely, is the animal life in the great wilderness under the scorching sun, which is a striking contrast to the picturesque view observable in Image 2. The gaze of the animals in image 3 looks directly at the reader; are the animals in distress looking at humans; are they asking humans for a solution to the drought; or are they questioning humans as to why the ecosystem is being destroyed?

From the image modality, the color of the whole book is dominated by warm shades, highlighting the desolation of the wilderness. For example, in Image 3, which is filled with yellow sand, the title page uses bright hues (green and blue) to render the human world, while the animal wilderness is picturized through withered yellow and gray-brown, suggesting an ecological imbalance and stimulating reflection through a visual contrast (refer to Figure 6).

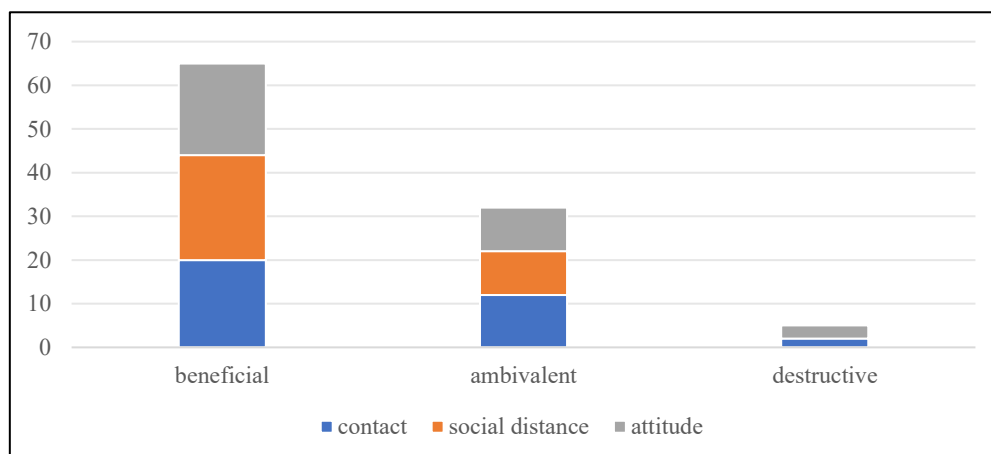


Figure 6

The Distribution of Ecological Discourse of Image Mode in The Summer

Although lower in proportion in text mode, the beneficial discourse has absolute dominance in the image modality for this particular book (Figure 7).

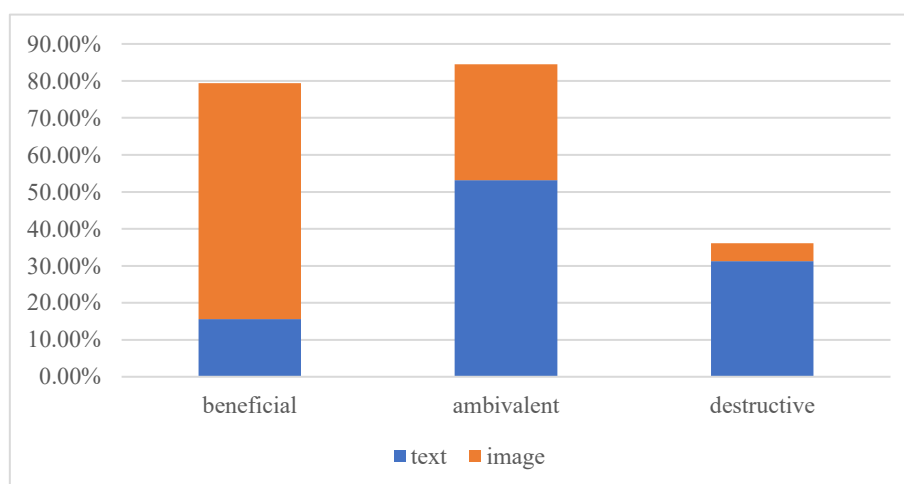


Figure 7

The Distribution of Ecological Discourse of Text and Image Modes in The Summer

The text modality has a low percentage of beneficial discourse. The story conveys the theme of love and being loved, emphasizing the animals' competition for resources, but the embodiment of this theme is only gradually revealed after destruction and ambiguity. The phrase “a cloud in the sky” may imply the possibility of rain suggesting the possibility of an ecological restoration, but it weakens the need for human intervention in the destroyed ecosystem. The image mode exhibits a sharp contrast between the idyllic pastoral style depicting human life (e.g. neat orchards, leisurely chickens and ducks) with the poor living conditions of animals in the wilderness, evoking a reflection on the good life of human beings and the sufferings of animals. This may be interpreted as a quest for awakening and awareness among human beings for the protection of other living creatures. According to Stibbe’ ecosophy, wellbeing and care not only refers to the health and happiness of human beings, transcending the ethic of anthropocentric care, but also includes the prosperity of non-humans (animals, plants, ecosystems). In the face of real ecological problems, there is a need for more



advocacy and dissemination of beneficial discourse to promote the awakening of ecological consciousness and the healthy development of ecosystems.

The Significance of There are 24 Solar Terms

The synergy of multimodal discourse in *There are 24 Solar Terms* strengthens the ecological message. The visual presentation of green as the main color and natural scenes subconsciously shapes children's aesthetic recognition of a healthy ecosystem. Through the combination of illustration and text, children understand that the earth has limits, that it is finite and if other species are not protected, the ecological balance will be broken, the earth's environment will be destroyed. Ultimately the survival of human beings will be affected.

This book is based on Chinese traditional ecological knowledge, conveying ecological resources (such as solar terms and native species) from traditional culture, and constructs a Chinese narrative paradigm which distinguishes it from Western narration. Solar Term is a crystallization of the wisdom of the ancient working people of China and has already been inscribed on the Representative List of the Intangible Cultural Heritage of Humanity of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). Through the dissemination of picture books, it helps children especially those from China to understand this traditional culture. It invariably also helps the world to know more about China, and promotes cultural exchanges between China and other countries. Whilst western ecological children's literature frequently places emphasis on the preservation of wilderness and the rescue of individual animals, *There are 24 Solar Terms* focuses on the cyclical nature of time, agricultural rhythm and the cohabitation of humans and nature. This is not merely a stylistic divergence; rather, it denotes a fundamental epistemological shift. The book reframes the ecological crisis not as a problem to be solved through technological intervention but rather as a relationship to be restored through cultural memory. In doing so, it offers a reconstruction of the ecological dimension of cultural identity, presenting a concept of "Chineseness" that is rooted in care, patience, and intergenerational responsibility.

The influence of this narrative model is evident in the wave of original Chinese picture books that were published in the succeeding years after the publication of *There are 24 Solar Terms*. Many original picture books were published after this series, such as *Fly! Little Blackie: The Migratory Path of China's Migratory Birds* (2019), *Ecological Fairy Tales of Woyuan Farm* (2022), and *China's National Parks* (2024). Drawing upon the rich tapestry of China's geography and biodiversity, these books fulfil two crucial roles. Firstly, they serve as effective educational tools, disseminating scientific knowledge and fostering a sense of environmental stewardship among children. Secondly, their combined efforts play a pivotal part in shaping the cultural identity of the young generation. These books extend this paradigm by situating environmental knowledge within a localized ecological system. As a matter of fact, this is not only limited to a localized response to a seemingly globalized ecological discourse, but it is also a reconstruction of a new dimension of cultural identity, crucially forming the ecological discourse with Chinese characteristics.



CONCLUSION

With the multimodal analysis of the selected samples, Chinese ecology-themed picture books are ecologically beneficial to foster children's education, create an awareness as well as convey critical knowledge as global citizens of the twenty-first century. The study reveals these points: (i) the ecological orientation of the picture books is constructed by the text and image modes, either separately or jointly; and, (ii) the ratio of beneficial discourse is higher in the image mode than the text mode. The theoretical contribution of this study lies in the development of an integrated multimodal ecolinguistic framework for the analysis of Chinese original picture books. In doing so, it expands the scope of ecolinguistics to children's picture books as formative sites of an ecological worldview. In the perspective of ecolinguistics, language is not only a tool for describing the world, but also a practice for changing it. By decoding and reframing the discourse, we can improve the younger generations' awareness and promote more ecologically conscious lifestyles.

The study also contributes to the localization of multimodal ecolinguistic theory in contemporary China by demonstrating how global ecolinguistic frameworks can be adapted to culturally specific narrative traditions. However, the culturally grounded research also restricts the generalizability of the findings, and it does not systematically examine how Chinese ecological picture books interact with global environmental discourse, or how they are received in transnational settings. It is recommended that future research include a cross-cultural analysis of Chinese and Western ecological picture books where a comparative investigation would provide further clarification and understanding of ecosophy in the diverse global cultural context.

REFERENCES

- Abdul Hair Beddu Asis, Asmiaty Amat, Syamsul Azizul Marinsah, & Mahadirin Ahmad. (2024). Bagang Bugis : Kearifan Etika Alam Sekitar Dalam Melestarikan Sumber Ikan Bilis Di Sabah: Kearifan Etika Alam Sekitar Dalam Melestarikan Sumber Ikan Bilis Di Sabah. Bagang Bugis: Knowledge of Environmental Ethics in Preserving Anchovy Resources in Sabah. *MANU Journal of Humanities*, 35(1), 28–46. <https://doi.org/10.51200/manu.v35i1.4552>
- Abdul Hair Beddu Asis, Syamsul Azizul Marinsah, & Habibah @ Artini Binti Ramlie. (2021). Tahap Kesedaran Dan Pembudayaan Alam Sekitar Dalam Kalangan Pelajar Sekolah Menengah Di Kota Kinabalu, Sabah: The Level of Environmental Awareness and Culture among Secondary School Students in Kota Kinabalu, Sabah. *MANU Journal of Humanities*, 32(2), 73–88. <https://doi.org/10.51200/manu.v32i2.3580>
- Abram, D. (1996). *The spell of the sensuous: Perception and language in a more-than-human world*. Pantheon Books.
- Alexander, R. J., & Stibbe, A. (2014). From the analysis of ecological discourse to the ecological analysis of discourse. *Language Sciences*, 41, 104–110. <https://doi.org/10.1016/j.langsci.2013.08.011>
- Arizpe, E., Noble, K., & Styles, M. (2023). *Children reading pictures: New contexts and*



- approaches to picturebooks* (3rd ed.). Routledge.
<https://doi.org/10.4324/9781003106326>
- Babb, Y., May, M., McBurnie, J., & Miller, K. K. (2018). Tracking the environment in Australian children's literature: The Children's Book Council of Australia Picture Book of the Year Awards 1955-2014. *Environmental Education Research*, 24(1), 1–15. <https://doi.org/10.1080/13504622.2017.1326020>
- Brown, H. D. (2014). *Principles of language learning and teaching: A course in second language acquisition*. Pearson Education.
- Cao, W., & Yu, R. (2015). *The summer*. 21st Century Press Group.
- Cao, Y. (2021). Ecological discourse analysis of "The Little Prince". *Journal of Sociology and Ethnology*, 3(8), 30–34. <https://doi.org/10.23977/jsoce.2021.030807>
- Cheng, I. N. Y., & So, W. W. M. (2015). Teachers' environmental literacy and teaching: Stories of three Hong Kong primary school teachers. *International Research in Geographical and Environmental Education*, 24(1), 58–79.
<https://doi.org/10.1080/10382046.2014.967111>
- China.org.cn. (2016, April 1). "Original picture book 2015 annual ranking" released.
<https://www.chinawriter.com.cn/news/2016/2016-04-01/269051.html>
- Cho, A. R., & Lim, B. Y. (2016). Exploring the beauty of existence through ecological picture books: Focusing on the beauty of Thomas Aquinas. *Ecological Early Childhood Education Research*, 15(3), 127–147.
- Chow, B., Ho, C., Wong, S., Waye, M., & Zheng, M. (2017). Home environmental influences on children's language and reading skills in a genetically sensitive design: Are socioeconomic status and home literacy environment environmental mediators and moderators? *Scandinavian Journal of Psychology*, 58(6), 519–529.
<https://doi.org/10.1111/sjop.12397>
- Chu, H., Lee, E. A., Ko, H. R., Shin, D. H., Lee, M. N., Min, B. M., & Kang, K. H. (2007). Korean year 3 children's environmental literacy: A prerequisite for a Korean environmental education curriculum. *International Journal of Science Education*, 29(6), 731–746. <https://doi.org/10.1080/09500690600823532>
- Fashal, K. S., & Al Shamari, S. M. K. (2022a). Investigating ecological identity in Haig's children's books: An ecolinguistic analysis. *International Journal of Early Childhood Special Education*, 14(5), 4254–4260. <https://doi.org/10.9756/INTJECSE/V14I5.492>
- Fashal, K. S., & Al Shamari, S. M. K. (2022b). Representation of animals in Scarry's children's books: An ecolinguistic analysis. *International Journal of Health Sciences*, 6(S7), 6718–6727. <https://sciencescholar.us/journal/index.php/ijhs/article/view/13798>
- Fill, A. (1998). Ecolinguistics: State of the art 1998. *AAA: Arbeiten aus Anglistik und Amerikanistik*, 23(1), 3–16.
- Fill, A. (2018). Ecolinguistics: Its origin and its evolution in the 21st century. *Revista de Letras*, 2(37), 7–23. <http://www.periodicos.ufc.br/index.php/revletras>
- Gao, C. (2015). *There are 24 solar terms*. Tomorrow Publishing House.
- Ginting, P., Algae, G., Hasnah, Y., Saragih, M., & Kharisma, A. (2024). The embodiment of environmental discourse in language learning: A critical ecolinguistic study of EFL textbooks in Indonesia. *Language Related Research*, 15(1), 145–175.
<https://doi.org/10.29252/LRR.15.1.16>
- Goatly, A. (2017). Lexicogrammar and ecolinguistics. In A. Stibbe (Ed.), *The Routledge handbook of ecolinguistics* (pp. 227–248). Routledge.



- Halliday, M. A. K. (1978). *Language as social semiotics: The social interpretation of language and meaning*. Edward Arnold.
- Halliday, M. A. K. (1990). New ways of meaning: The challenge to applied linguistics. *Journal of Applied Linguistics*, 6, 7–16.
- Han, X. (2022). A study on college English teaching from the perspective of ecolinguistics. *Educational Theory and Practice*, 42(18), 52–55.
- Hann, D., & Hagelman, R. (2021). Geographic and environmental themes in children's literature. *Journal of Geography*, 120(3), 117–125.
<https://doi.org/10.1080/00221341.2021.1915363>
- Haugen, E. (1972). *The ecology of language*. Stanford University Press.
- He, W., & Shen, W. (2023). A study on the representation of animal discourse in language textbooks from the perspective of ecolinguistics. *Foreign Language Teaching*, 44(4), 7–15. <https://doi.org/10.16362/j.cnki.cn61-1023/h.2023.04.008>
- Hunt, R. (2023). Representations of nature and gender roles in Little Red Riding Hood: An ecolinguistic and ecofeminist discourse analysis. *Language & Ecology*.
<http://ecolinguistics-association.org/journal>
- Isti'anah, A. (2019, August). Appreciation for Raja Ampat in the official website of Indonesian tourism: Ecolinguistic study. *Advances in Social Science, Education and Humanities Research*, 338, 64–70. <https://doi.org/10.2991/prasasti-19.2019.9>
- Jabeen, I. (2024). The portrayal of environmental concerns: An ecolinguistic analysis of media discourse. *World Journal of English Language*, 14(5), 1–13.
- Junaidi, R. B. (2020). Persekitaran Yang Membentuk Modal Insan Dalam Novel Kanak-Kanak: Environment that Form Human Capital in Children's Novels. *MANU Journal of Humanities*, 31(1). <https://doi.org/10.51200/manu.v31i1.2268>
- Khasandi-Telewa, V. (2023). An ecolinguistic positive discourse analysis of 'Mwambu and Sella', a Bukusu oral narrative from Western Kenya. *Language and Ecology*.
<http://ecolinguistics-association.org/journal>
- Kress, G. R., & van Leeuwen, T. (2006). *Reading images: The grammar of visual design* (2nd ed.). Routledge.
- Lamb, G. (2017). [Review of the book *Ecolinguistics: Language, ecology, and the stories we live by*, by A. Stibbe]. *Language in Society*, 46(2), 276–277.
- Lee, Y. (2012). The effects of "green growth" education activities using an integrity approach on pro-environmental literacy of 5-year-old children. *Paper Collection of Preschool Education*, 16, 97–116.
- Li, B., & Sun, Y. (2023). The construction of multimodal ecological concepts in the environmental documentary "Only One Earth". *Journal of University of Science and Technology Beijing (Social Sciences Edition)*, 39(5), 563–573.
<https://doi.org/10.19979/j.cnki.issn10082689.2023030033>
- Li, Z. (2025, April 14). *Ten years of cultivation: The breakthrough and transformation of original Chinese picture books*. Bookdao.
<https://m.bookdao.com/Article.aspx?id=440506>
- Liu, B., & Wei, Y. (2015). *The dragonfly's diary*. China Children Press.
- Ma, J. (2024). Promoting the formation of environmental awareness in children: The representation of nature in Chinese language textbooks. *Journal of World Languages*, 10(2), 456–485. <https://doi.org/10.1515/jwl-2023-0024>
- Martín, N. M., Hageman, J. L., Montgomery, S. E., & Rule, A. C. (2019). A content analysis



- of thirty children's picture books about ecology. *Journal of STEM Arts, Crafts, and Constructions*, 4(1), 83–120.
- Ministry of Ecology and Environment of the People's Republic of China. (2019, September 25). *Beautiful China pioneer list (27): The exploration and practice of Shanghai promoting domestic waste classification*.
https://www.mee.gov.cn/xxgk2018/xxgk/xxgk15/201909/t20190925_735496.html
- Mou, Y., & Wu, Y. (2023). An ecolinguistic analysis of German textbooks used in Chinese universities: Environmental content and ecological view. *Porta Linguarum*, VIII, 27–43. <https://doi.org/10.30827/portalin.viVIII.29203>
- Naess, A. (1995). The shallow and the long-range, deep ecology movement. In A. Drengson (Ed.), *The deep ecology movement: An introductory anthology* (pp. 3–17). North Atlantic Books.
- Nash, J. (2016). Ecologically embedded languages, cumulative grammars and island ecologies. *Acta Linguistica Hafniensia*, 48(2), 161–170.
<https://doi.org/10.1080/03740463.2016.1243977>
- Negev, M., Sagy, G., Garb, Y., Salzberg, A., & Tal, A. (2008). Evaluating the environmental literacy of Israeli elementary and high school students. *The Journal of Environmental Education*, 39(2), 3–20. <https://doi.org/10.3200/JOEE.39.2.3-20>
- Nikkanen, J. (2024). *An ecolinguistic discourse analysis of the BBC's nature documentary series Planet Earth and Planet Earth II* [Unpublished master's thesis]. University of Turku.
- Orhan, A. E., & Lake, B. M. (2024). Learning high-level visual representations from a child's perspective without strong inductive biases. *Nature Machine Intelligence*, 6(3), 271–283. <https://doi.org/10.1038/s42256-024-00802-0>
- Qian, C., Yan, Z., & Fu, C. (2012). Climatic changes in the Twenty-four Solar Terms during 1960–2008. *Chinese Science Bulletin*, 57(2), 276–286.
<https://doi.org/10.1007/s11434-011-4724-4>
- Steffensen, S. V., & Fill, A. (2014). Ecolinguistics: The state of the art and future horizons. *Language Sciences*, 41, 6–25. <https://doi.org/10.1016/j.langsci.2013.08.003>
- Stibbe, A. (2001). Language, power and the social construction of animals. *Society & Animals*, 9(2), 145–161. <https://doi.org/10.1163/156853001753639251>
- Stibbe, A. (2003). As charming as a pig: The discursive construction of the relationship between pigs and humans. *Society & Animals*, 11(4), 375–392.
<https://doi.org/10.1163/156853003322796091>
- Stibbe, A. (2005). Ecology and the magic of economics. *Language and Ecology*, 1(4), 1–6.
- Stibbe, A. (2014a). An ecolinguistic approach to critical discourse studies. *Critical Discourse Studies*, 11(1), 117–128. <https://doi.org/10.1080/17405904.2013.845789>
- Stibbe, A. (2014b). Ecolinguistics and erasure: Restoring the natural world to consciousness. In C. Hart & P. Cap (Eds.), *Contemporary critical discourse studies* (pp. 583–602). Bloomsbury Academic. <https://doi.org/10.5040/9781472593634.ch-025>
- Stibbe, A. (2015). *Ecolinguistics: Language, ecology and the stories we live by*. Routledge.
- Triyono, S., Sahayu, W., & Fath, S. N. (2023). Ecological discourse and environmental education in English textbooks: A multimodal eco-critical discourse analysis. *3L: Language, Linguistics, Literature*, 29(3), 213–227.
<https://ejournal.ukm.my/3l/issue/view/1618>
- Van Bergen, E., van Zuijen, T., Bishop, D., & de Jong, P. F. (2017). Why are home literacy



- environment and children's reading skills associated? What parental skills reveal. *Reading Research Quarterly*, 52(2), 147–160.
- Vonk, R. (2002). Self-serving interpretations of flattery: Why ingratiation works. *Journal of Personality and Social Psychology*, 82(4), 515–526. <https://doi.org/10.1037/0022-3514.82.4.515>
- Xiaolan, C. (2020). Environmental literacy: Raising awareness through Chinese primary education textbooks. *Language, Culture and Curriculum*, 34(2), 147–162.
- Xinhua News. (2015, December 29). *The Ministry of Ecology and Environment and the Ministry of Education have announced the list of the second batch of national primary and secondary school environmental education social practice bases.* https://www.xinhuanet.com/politics/2015-12/29/c_128577853.htm
- Xinhua News. (2019, June 5). *This major matter in Xi Jinping's mind is being advanced layer by layer in this way.* http://www.xinhuanet.com/politics/xxjxs/2019-06/05/c_1124587649.htm
- Yavuz-Topaloglu, M., Demirhan, E., & Atabek-Yigit, E. (2019). Is nuclear power acceptance related to environmental literacy in Turkey? *International Electronic Journal of Environmental Education*, 9(2), 157–173. <https://izlik.org/JA96PA96CD>
- Yu, M., & Zhao, Q. (2025). Historical evolution, dynamics mechanism and evolutionary logic of China's environmental governance system: Based on the perspective of historical institutionalism. *Academic Monthly*, 57(4), 72–82.
- Zahoor, M., & Janjua, F. (2020). Green contents in English language textbooks in Pakistan: An ecolinguistic and ecopedagogical appraisal. *British Educational Research Journal*, 46(2), 321–338. <https://doi.org/10.1002/berj.3579>
- Zhang, H., Lin, Z., & Dong, X. (2023). A study on attitude resources in climate change news discourse from the perspective of ecolinguistics. *Foreign Language Teaching and Practice*, (5), 44–54.
- Zhang, R., & He, W. (2020). Human-nature relationships in experiential meaning: Transitivity system of Chinese from an ecolinguistic perspective. *Journal of World Languages*, 6(3), 217–235. <https://doi.org/10.1080/21698252.2020.1819519>
- Zollo, S. A. (2024). The EU and environmental education: A multimodal ecological discourse analysis. *Multimodal Communication*, 13(2), 185–197. <https://doi.org/10.1515/mc-2023-0073>

BIOGRAPHY

Wangbei Tu is a teacher at Anqing Normal University in China, and a PhD student in English Language Studies at the Centre for the Promotion of Knowledge and Language Learning, Universiti Malaysia Sabah.

Kavitha Ganesan is a Senior Lecturer at Universiti Malaysia Sabah. She is primarily trained in Postcolonial Literature in English and her current research interests are in diasporic studies and transnationalism.